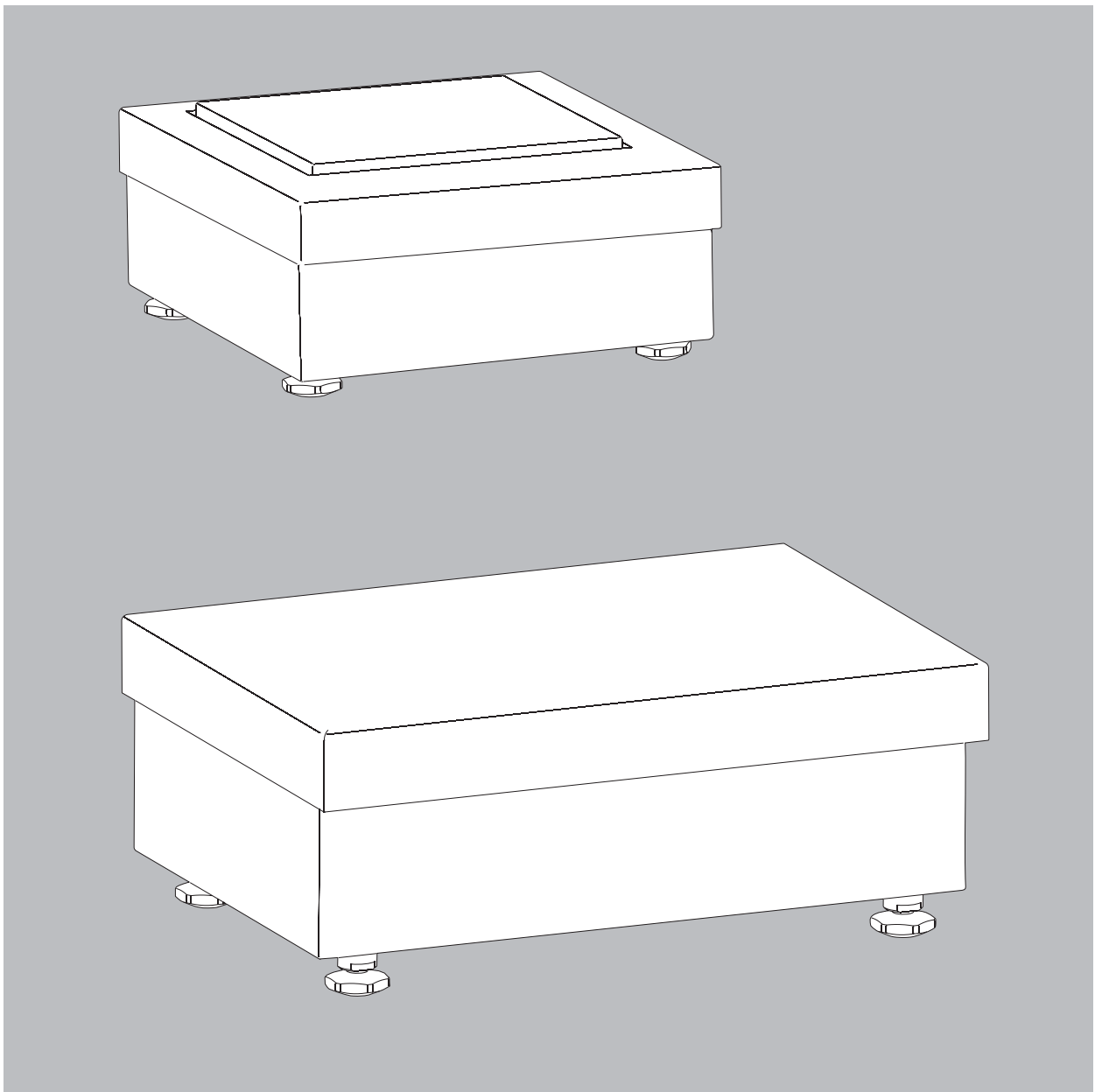


## Operating Instructions

# Sartorius ISBBS, ISDCS

## Weighing Platform



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No liability is accepted for software installed before the purchase of this product. The buyer is liable for any misuse of the product.

## Intended Use

As precise and robust weighing platforms, the ISBBS and ISDCS provide reliable weighing results. The models are based on monolithic technology (the principle of electromagnetic force compensation).

These industrial weighing platforms offer the following special features:

- Robust and durable Sartorius quality
- IP65 protection from dust and jets of water
- High-quality workmanship and materials
- Preload values can be defined (for equipment installed on the scale)

## Warnings and Safety Precautions



Read these operating instructions thoroughly before using the weighing platform, in order to prevent damage to the equipment.



The weighing platforms comply with the European Council Directives as well as international regulations and standards for electrical equipment, electromagnetic compatibility, and the stipulated safety requirements.



Do not expose the equipment to aggressive chemical vapors or to unnecessarily extreme temperatures, moisture, shocks, or vibration.



Avoid generating static electricity and connect equipotential bonding terminals.



All models meet the criteria for protection class IP65.  
Any installation work that does not conform to the instructions in this manual results in forfeiture of all claims under the manufacturer's warranty.



If there is any indication that safe operation of the equipment is no longer guaranteed, disconnect the platform from the power and ensure that it is not used further.



Always ensure that the weighing platform is disconnected from AC power before performing any maintenance, cleaning, or repair work.



Note the pin assignments when using cables provided by other manufacturers. Check the connections of the cable against the corresponding cabling diagram before connecting to the Sartorius equipment and disconnect any wires that are assigned differently. The operator shall be solely responsible when using cables not supplied by Sartorius.



The weight value can be affected by extreme electromagnetic influences. Once the disturbance has ceased, the instrument can be used again in accordance with its intended purpose.

# Getting Started

**Warning:**

Unpacked devices can lose their precision if subject to extreme vibrations. Excessive vibrations may compromise the safety of the equipment. Do not expose the equipment to unnecessarily extreme temperatures, moisture, shocks, or vibrations.

Permitted storage temperature: -10°C to +40°C

---

**Unpacking the Equipment**

Remove the device from the packaging. Check for any visible damage. Save the original packaging for any future transport. Unplug all connected cables before packing the equipment.

**Acclimatizing the Device**

The device should only be opened by trained and qualified personnel. Before opening the valve unit: Turn the main switch to “OFF.” Take all steps necessary to secure the equipment against unauthorized power-up.

Disconnect the device from the power supply if possible.

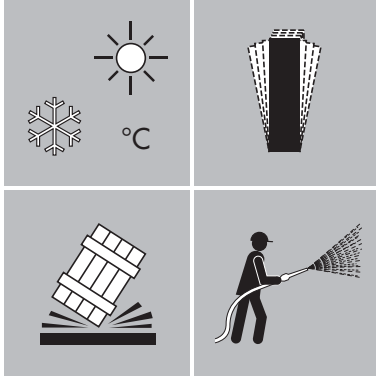
Once work is completed: Securely lock the valve unit.

---

**Scope of Supply:**

- Weighing platform
- Operating instructions
- Special accessories as listed on the bill of delivery, if ordered

# Installation Instructions



- Set up a suitable installation location for the weighing platform.

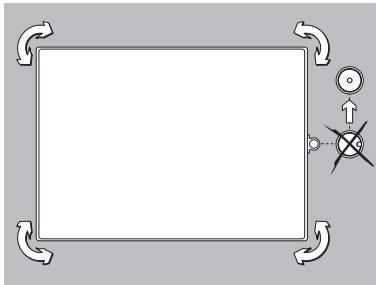
The place of installation should be dry, level, and flat. The operating temperature ranges from  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ .

The weighing platform must not be subjected to unnecessarily extreme temperatures, moisture, shocks, or vibrations that could result in damage.

## Leveling the Weighing Platform

- Purpose:
- To compensate for uneven areas at the place of installation
  - To ensure that the equipment is placed in a perfectly horizontal position for consistently reproducible weighing results

Always level the weighing platform again any time after it has been moved to a different location.



- Level the weighing platform using the four leveling feet. Turn the feet until the air bubble is centered in the level indicator.
- Check to ensure that all leveling feet rest securely on the work surface.
- ▷ Each of the leveling feet must support an equal load.
- ▷ Adjusting the leveling feet:  
To raise the weighing platform, extend the leveling feet (turn counterclockwise).  
To lower the weighing platform, retract the leveling feet (turn clockwise).

## Ground Conductor



The ground conductor is located underneath the weighing pan on the clamp box or on the lower base of the weighing platform. It is marked as a ground connection with the symbol shown here.

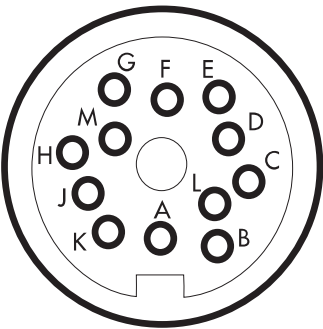
Grounding is implemented using a threaded bolt or screw terminal, or as a hole. If a ground hole is the method of grounding, a stainless steel screw and nut must be used. A lock washer should be placed underneath in order to prevent the screw from loosening. The grounding cable must have a minimum cross-section of  $4\text{ mm}^2$  and must be fitted with a suitable ring terminal. Connect all equipment, including peripheral devices, to the equipotential bonding conductor.

# Data Interface

The weighing platform has a standard COM1 interface, RS-485 socket (IP65). The standard COM1 interface can be converted to RS-232 through the Sartorius Service Center.

## Pin Assignment

COM 1 round plug connector with screw connection.  
Front view:



	RS-485 data interface	RS-232 data interface
A	RxD-TxD-N	Not used
B	Not used	RxD
C	Not used	TxD
D	Not used	CTS
E	GND	GND
F	Menu access switch for adjustment	Menu access switch for adjustment
G	12-30 VDC 2W supply	12-30 VDC 2W supply
H	Not used	DTR
J	GND	GND
K	GND	GND
L	RxD-TxD-P	Not used
M	12-30 VDC 2W supply	12-30 VDC 2W supply



### Female Interface Connector (Recommended):

Type C091D, 12-pin, Amphenol (IP65) cable type as per AWG 24  
Observe power supply instructions.

## Operation as an RS485-interface:

Switch 4 must be open in order to switch to RS-485 operation (factory setting). Where applicable, deactivate bias resistors for RS-485 operation. Open switches for this purpose (factory setting). There must only be one instance of bias resistors per transmission path (network or point-to-point connection). Otherwise there is a risk of transmission errors. Where applicable, refer to the specifications or circuit documentation for the remote station or network nodes in question. Bias resistors must always be activated or deactivated in pairs. The terminating resistor (transmitting side, switch 1 must be activated if the device is located at either end of an RS-485 bus system, or where it is connected to another device in a point-to-point link. There must also be a terminating resistor of 120 Ω in place at the remote station. Where applicable, activate terminating resistor 120 Ω for RS-485 operation:

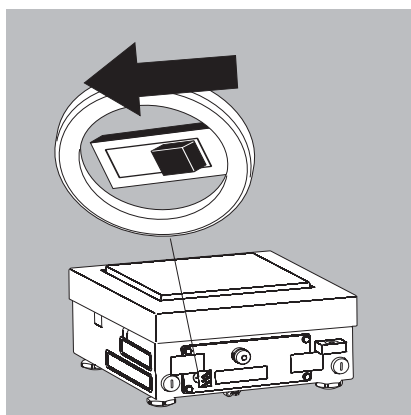
Terminating resistor, receiving side 120 Ω	Switch 1 on
BIAS resistor, receiving side (RxD+, pull-up) 680 Ω	Switch 2 on
BIAS resistor, receiving side (RxD-, pull-down) 680 Ω	Switch 3 on
No function	Switch 4

## Menu Access Switch

### ISBBS

Switch on the right = for use in legal metrology

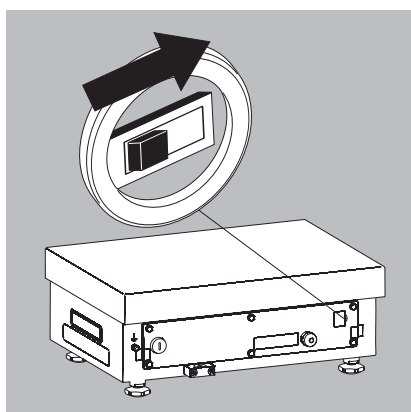
Switch on the left = external calibration/adjustment accessible



### ISDCS

Switch on the right = for use in legal metrology

Switch on the left = external calibration/adjustment accessible





# Specifications

## General Specifications

The CE conformity is only guaranteed when using Sartorius accessories.

Digital protective interface	as per EN 45501
Data interface	RS-485
Housing: material	stainless steel
Protection class as per EN 60529	IP65
Temperature range	–10°C to +40°C
Humidity	max. relative humidity is 80% for temperatures up to 31°C
DC supply	optional 15.524 V DC ( $\pm 10\%$ ), max. 12 W via interface
Interference emission	as per EN 61326+A1, Class B (IEC 61326+A1)
Interference immunity	as per EN 61326+A1, industrial areas (IEC 61326+A1)
Electrical safety	as per EN 61010-1 (IEC 61010-1), EN 60950 (IEC 60950)

## ISBBS Weighing Data

### Non-verifiable Models

Weighing capacity (kg)	3.1	6.1
Readability (g)	0.01	0.01
Resolution code	-H	-H
Calibration weight value (in grams)	2000	5000
Accuracy class	E2	E2
Preload (kg)	3	0
Reproducibility (g)	0.01	0.01
Linearity (g)	0.02	0.02
Ambient temperature -10°C to +40°C		


## ISDCS Weighing Data

### Non-verifiable Models

Weighing capacity (kg)	16	35
Readability (g)	0.1	0.1
Resolution code	-H	-H
Calibration weight value (in grams)	10,000	10,000
Accuracy class	F1	F1
Preload (kg)	5	5
Reproducibility (g)	0.08	0.08
Linearity (g)	0.02	0.02
Ambient temperature -10°C to +40°C		

## Error Messages

Error messages are output via the interface. Error messages are shown permanently; information messages are shown for two seconds. After this the program automatically returns to the weighing mode.

Display	Cause	Solution
Err 101	Key is stuck when switching on	Release key or contact your local Sartorius Service Center
Err 320	Operating program memory faulty	Contact your local Sartorius Service Center
Err 335	Verified weighing platform not compatible with the connected terminal	Connect a compatible weighing platform
Err 340	Incorrect operating parameter (EEPROM)	Turn the scale off and then on again. If the error code is still displayed: Contact your local Sartorius Service Center
Err 341	RAM has lost data; battery is dead	Leave the scale connected to power for at least 10 hrs
Err 343	Loss of data in memory for transaction numbers in external Alibi memory	Contact your local Sartorius Service Center
Inf 01	Data output not compatible with output format	Set output format correctly
Inf 02	Calibration/adjustment condition not met; tare or unload the scale	Do not calibrate until 0 display
Inf 03	Adjustment could not be completed within a certain time	Allow to warm up again and repeat the adjustment process
Inf 06	Built-in calibration weight defective	Contact your local Sartorius Service Center
Inf 07	Function not allowed in scales verified for use in legal metrology	Contact your local Sartorius Service Center for information on changing settings
Inf 08	The load on the scale is too heavy to zero the readout	Check whether "Tare/zero at power on" is set in your configuration
Inf 09	Taring is not possible when the scale gross weight is < zero	Zero the scale
Inf 10	Tare key is blocked when there is data in the tare memory	The data stored for the application program must be deleted before taring
Inf 22	Error in storing reference value, Weight is too low	Place a heavier weight on the platform
Inf 23	Error in initializing an application	Contact your local Sartorius Service Center
Inf 29	Minimum load not reached	Define a lower value for the minimum load
Inf 71	Cannot store the current weight value (e.g., control limits too low or too high)	None
Inf 72	Cannot store the current weight value (e.g., transaction counter maximum reached)	None
Inf 73	Data not found or unreadable	Contact your local Sartorius Service Center
Inf 74	Function is blocked (e.g., menu is locked)	None
Inf 98	No weighing platform connected	Contact your local Sartorius Service Center
Inf 99	No weighing platform connected	Contact your local Sartorius Service Center
NO WP	No weighing platform connected	Contact your local Sartorius Service Center
Flashing 	Battery defective or time changed	Set the time

# Care and Maintenance

## Cleaning Instructions

- ▶ Disconnect the weighing platform from the power supply before cleaning.
- ▶ If the scale is located in a dry room, wipe the weighing platform with a moist cloth. Conventional household cleaning agents can be used. Observe the manufacturer's information.



Never use concentrated acids, alkali solutions, solvents, or pure alcohol to clean the equipment.

- ▶ If the scale is located in a wet room, clean the weighing platform from above with a weak water jet (max. 60°C).



Using a high pressure cleaner to clean the weighing platform is not permitted.



### Cleaning the Weighing Platform Interior

- ▶ Use compressed air to clean out the interior or use a weak water jet (max. 60°C). Take special care to ensure that no dirt gets into the gap.



- ▶ Condensation may occur in the device due to the temperature difference if the equipment is cleaned with water that is too hot or cold. Condensation may cause the equipment to malfunction.

## Cleaning the Stainless Steel Surfaces

All stainless steel parts should be cleaned at regular intervals.

Use a damp cloth or sponge to clean stainless steel parts on the scale.

Conventional household cleaning agents which are suitable for stainless steel are safe for use.

Stainless steel should be cleaned simply by rubbing.

Then clean the weighing platform thoroughly, making sure to remove all residues. After this, let the device dry. For additional protection, protective oil may be applied.



Do not clean stainless steel parts with any cleaning agents containing sodium hydroxide, acetic acid, hydrochloric acid, sulfuric acid, or citric acid.  
Do not use steel wool scouring pads.



Remove all traces of corrosive substances from the scale on a regular basis.

## Disposal



If the packaging is no longer needed, it can be disposed of by local waste disposal authorities. The packaging is made of environmentally friendly materials that can be used as secondary raw materials. The equipment, including accessories and batteries, should not be disposed of as regular household waste. EU legislation requires its Member States to collect electrical and electronic equipment and dispose of it separately from other unsorted municipal waste so that it may be recycled. In Germany and several other countries, Sartorius itself assumes responsibility for the return and conformant disposal of its electronic and electrical products. These products may not be placed with household waste or brought to collection centers run by local public disposal operations – not even by small commercial operators. For disposal in Germany and in the other member nations of the European Economic Area (EEA), please contact our local service technicians or our Service Center in Goettingen, Germany:

Sartorius Service Center  
Weender Landstrasse 94–108  
37075 Goettingen, Germany

SWT GÖ: WEEE-Reg.-Nr. DE 49923090

In countries that are not members of the European Economic Area (EEA) or where no Sartorius subsidiaries or dealerships are located, please contact your local authorities or a commercial disposal operator. Prior to disposal and/or scrapping of the equipment, any batteries should be removed and disposed of in local collection boxes. Sartorius will not take back equipment contaminated with hazardous materials (ABC contamination) either for repair or disposal. Please refer to our website ([www.sartorius-mechatronics.com](http://www.sartorius-mechatronics.com)) or contact the Sartorius Service Center for more detailed information regarding repair service addresses or the disposal of your device.

## Potentially Explosive Atmosphere

For devices with option Y2 only: Directive 94/9/EC, “Equipment and protective systems intended for use in potentially explosive atmospheres”

Applicable European standards:

EN 60079-0 General requirements

EN 60079-15 Equipment protection by type of protection “n”

EN 60079-31 Explosive atmospheres

Equipment dust ignition protection by enclosure “t”





# CE EG-Konformitätserklärung EC Declaration of Conformity

Sartorius Weighing Technology GmbH  
Weender Landstrasse 94 - 108  
D-37075 Goettingen, Germany

erklärt in alleiniger Verantwortung, dass das Betriebsmittel  
*declares under own responsibility that the equipment*

Geräteart: Elektronische Präzisionswaage  
*Device type: Electronic Precision Balance*

Baureihe / Type series: SIWxBBy-...-..., SIWxDCy-...-..., ISBBS-...-..., ISDCS-...-... + Option Y2  
*x = A,R oder/for S; y = P oder/for S*

in der von uns in Verkehr gebrachten Ausführung mit den grundlegenden Anforderungen der  
folgenden Europäischen Richtlinien übereinstimmt:

*in the form as delivered complies with the basic requirements of the following European Directives:*

Richtlinie 2004/108/EG Elektromagnetische Verträglichkeit  
*Directive 2004/108/EC Electromagnetic compatibility*

Richtlinie 2006/95/EG Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter  
Spannungsgrenzen  
*Directive 2006/95/EC Electrical equipment designed for use within certain voltage limits*

Richtlinie 94/9/EG Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in  
explosionsgefährdeten Bereichen  
*Directive 94/9/EC Equipment and protective systems intended for use in potentially explosive atmospheres*

Das Gerät erfüllt die anwendbaren Anforderungen der in Anhang 1 aufgeführten harmonisierten  
Europäischen Normen. Zu Angaben zur Richtlinie 94/9/EG siehe Anhang 2.

*The apparatus meets the applicable requirements of the harmonized European Standards listed in Annex 1.  
For specifications regarding Directive 94/9/EC see Annex 2.*

Jahr der Anbringung der CE-Kennzeichnung / Year of attachment of CE marking: 12

Sartorius Weighing Technology GmbH  
Goettingen, 2012-05-14

*i.v. P. Baumfalk*

Dr. Reinhard Baumfalk  
Vice President R&D

*i.v. Dr. Klausgrete*

Dr. Dieter Klausgrete  
Head of International Certification Management

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*This declaration certifies conformity with the above mentioned EC Directives, but does not guarantee product  
attributes. Unauthorised product modifications make this declaration invalid. The safety information in the  
associated product documentation must be observed.*

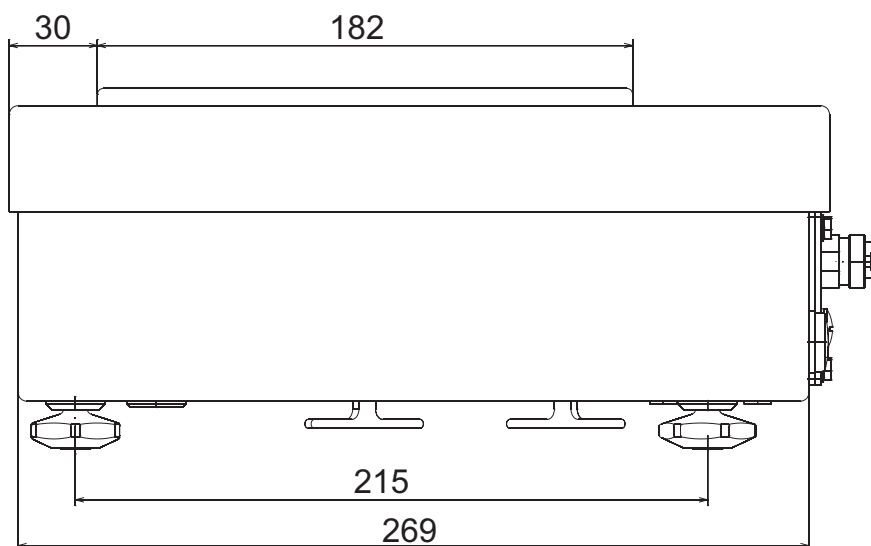
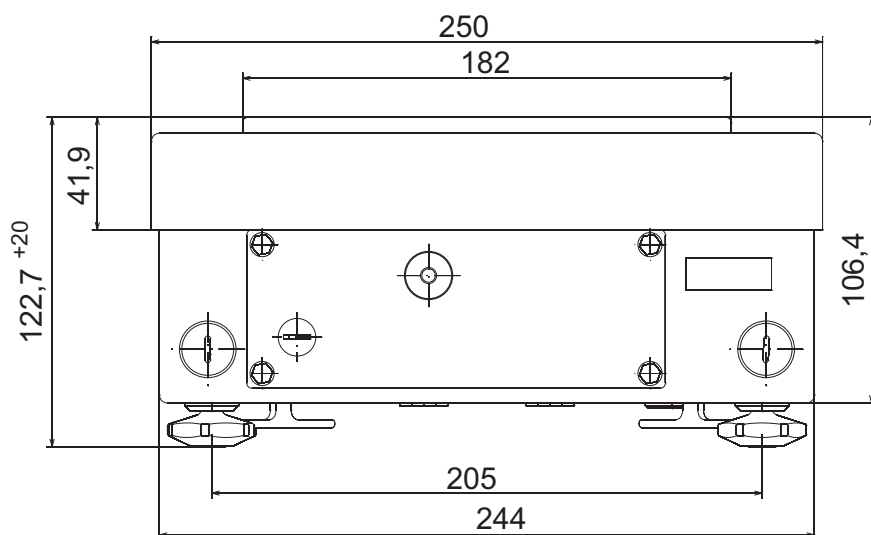
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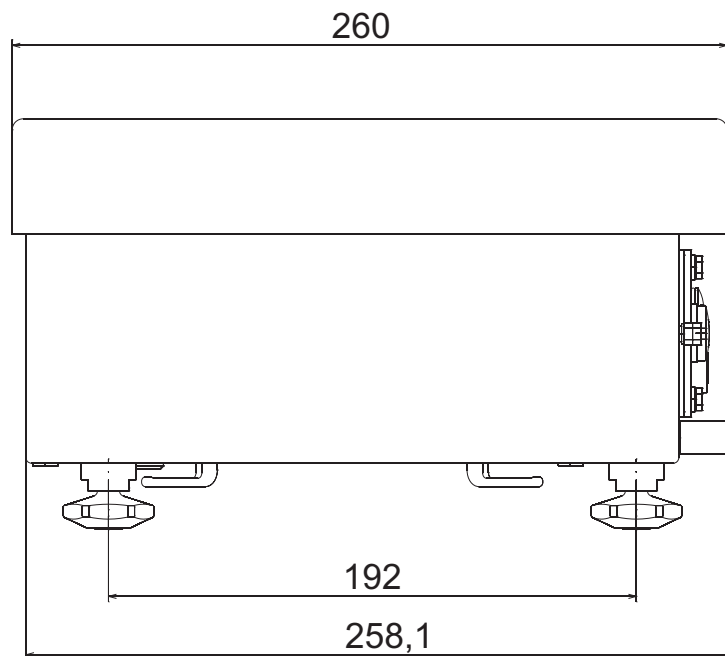
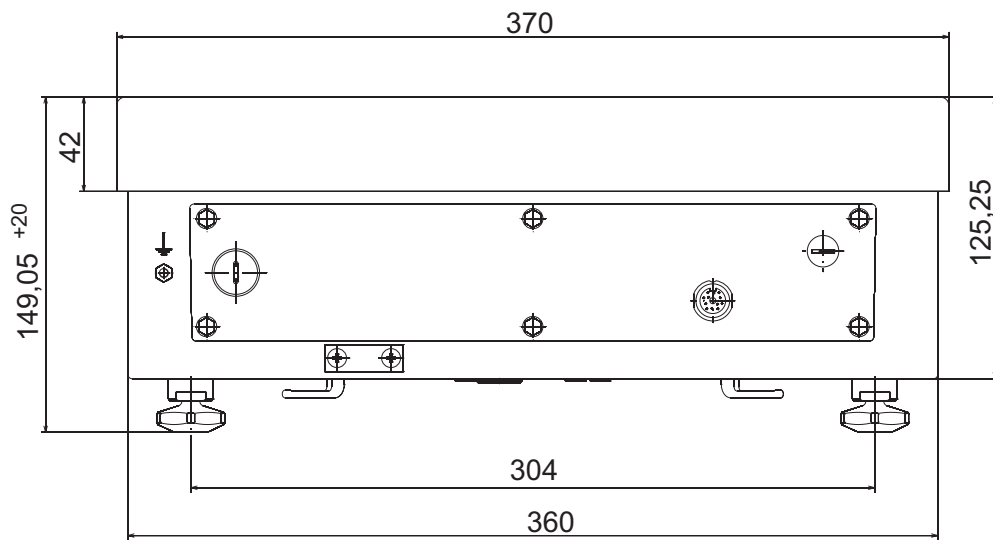
SOP-3.RD-045-fo2

## Dimensions (Scale Drawings)

### ISBBS



# ISDCS





## Herstellerbescheinigung Manufacturer's Certificate

Sartorius Weighing Technology GmbH  
Weender Landstrasse 94 - 108  
D-37075 Goettingen, Germany

bescheinigt in alleiniger Verantwortung, dass das Produkt  
*certifies under our sole responsibility that the product*

Elektronische Präzisionswaage / Electronic precision balance

SIWxBBy-...-..., SIWxDCy-...-..., ISBBS-...-..., ISDCS-...-... + Option Y2  
x = AR oder/for S; y = P oder/for S

auf das sich diese Bescheinigung bezieht, in der von uns in Verkehr gebrachten Ausführung mit der/den folgenden Norm(en) oder normativen Dokument(en) übereinstimmt (siehe Seite 2) gemäß den Bestimmungen der „Richtlinie 94/9/EG des Europäischen Parlaments und des Rates vom 23. März 1994 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen“. Das Produkt wird wie folgt gekennzeichnet:

*to which this certification relates in the form as delivered complies with the following standard(s) or other normative document(s) (see page 2) pursuant to the provisions of the "Directive 94/9/EC of the European Parliament and the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres". This product is labelled as follows:*



II 3G Ex nA nC ic IIC T4 Gc  
II 3D Ex tc IIIC T80°C Dc  
SWT12ATEX001X

Sartorius Weighing Technology GmbH  
Goettingen, 2012-05-14

*i. v. P. B. — 7.14*  
Dr. Reinhard Baumfalk  
Vice President R&D

*i. v. K. A.*  
Dr. Dieter Klausgrete  
Head of International Certification Management

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SWT12ATEX006

1 / 2

SOP-3.RD-045-f04







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Version:  
April 2013,  
Sartorius Weighing Technology GmbH  
Goettingen, Germany

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